

ABSTRACT

This present invention describes a method of coating a polymer surface with diamond-like carbon (DLC) to render it useful as a carrier for cells derived from neural crest origin, preferable neuronal cells that form dendrites. The biopolymer to be coated with the DLC will include biodegradable polymers and other implantable biopolymers to act as a carrier system for cell transplantation into the various parts of the body, including the brain, the eye, the central and peripheral nervous system, the lung, the liver, the spleen, the kidney, and the bone and cartilage. The biopolymer can be in sheet form or microparticle form, and can be imbedded with, or incorporated into during its synthesis, attachment or growth promoting reagents to enhance and support neuronal cell attachment and growth. This coating method can also augment other coating agents such as extracellular matrix (ECM) secreted by cultured bovine corneal endothelial cells, as well as adhesive molecules such as fibronectin, laminin, and RGDS. The coating step can be a sequential process where the DLC layer will be added on top of an ECM coated surface or an attachment factor coated surface.